Listing of the Claims

1. (Previously presented) A method, comprising:

operating in a multiple input, multiple output (MIMO) mode by a transmitter device of a wireless network to communicate with a receiver device of the wireless network, the wireless network including at least one transmitter device and a plurality of receiver devices;

observing both physical (PHY) layer performance of the receiver device and media access control (MAC) layer performance of the transmitter device during said MIMO mode of operation; and

the transmitter device based at least on the observations switching from operating in the MIMO mode to operating in a spatial division, multiple access (SDMA) mode to communicate with the plurality of receiver devices including the receiver device, when poor MAC layer performance below a MAC layer performance threshold is observed for the transmitter device during the MIMO mode of operation of the transmitter device, even though good PHY layer performance above a PHY layer performance threshold is observed for the receiver device during the MIMO mode of operation of the transmitter device.

2. (Previously presented) A method as claimed in claim 1, wherein said observing includes observing a latency value of said MAC layer, and said switching is based at least in part on whether the observed latency value of said MAC layer exceeds a threshold value or not.

3. (Previously presented) A method as claimed in claim 1, wherein said observing includes observing a throughput value of said MAC layer, and said switching is based at least in part on whether the observed throughput value is below a threshold value or not.

4. (Previously presented) A method as claimed in claim 1, wherein said observing includes observing a bit error rate of said PHY layer, and said switching occurring even though observing a bit error rate of said PHY layer that is below a threshold value indicating good PHY layer performance.

5. (Previously presented) A method as claimed in claim 1, wherein said observing includes observing a data rate, a signal-to-noise ratio, or a spectral efficiency of said PHY layer, and said switching occurring even though observing a data rate, a signal-to-noise ratio, or a spectral efficiency of said PHY layer that is above a threshold value indicating good PHY layer performance.

6. (Canceled)

7. (Previously presented) A method, comprising:

operating in a spatial division, multiple access (SDMA) mode by a transmitter device of a wireless network to communicate with a receiver device of a plurality of receiver devices of the wireless network, the wireless network including at least one transmitter device and the plurality of receiver devices;

observing both physical (PHY) layer performance of the receiver device and media access control (MAC) layer performance of the transmitter device during said SDMA mode of operation; and

the transmitter device based at least on the observations switching from operating in the SDMA mode to operating in a multiple input, multiple output (MIMO) mode to communicate with the receiver device, when poor PHY layer performance below a PHY layer performance threshold is observed for the receiver device during the SDMA mode of operation of the transmitter device, even though good MAC layer performance above a MAC layer performance threshold is observed for the transmitter device during the SDMA mode of operation of the transmitter device.

8. (Previously presented) A method as claimed in claim 7, wherein said observing includes observing bit error rate of the PHY layer, and said switching is based at least in part on whether the observed bit error rate of the PHY layer exceeds a threshold value or not.

9. (Previously presented) A method as claimed in claim 7, wherein said observing includes observing a data rate, a signal-to-noise ratio, or a spectral efficiency of said PHY layer, and said

switching is based at least in part on whether the observed data rate, signal-to-noise ratio, or spectral efficiency is below a threshold value or not.

10. (Previously presented) A method as claimed in claim 7, wherein said observing includes observing a latency value of said MAC layer, and said switching occurring even though observing a latency value of said MAC layer that is below a threshold value indicating good MAC layer performance.

11. (Previously presented) A method as claimed in claim 7, wherein said observing includes observing a throughput value of said MAC layer, and said switching occurring even though observing a throughput value of said MAC layer that exceeds a threshold value indicating good MAC layer performance.

12. -14. (Canceled)

15. (Previously presented) An article, comprising:

a storage medium having stored thereon instructions that, when executed by a computing platform, result in adaptive switching between a multiple input, multiple output (MIMO) mode and a spatial division, multiple access (SDMA) mode by:

operating in a MIMO mode to communicate with a receiver device of a wireless network, the computing platform being a transmitter device of the wireless network, the wireless network including at least one transmitter device and a plurality of receiver devices;

observing both physical (PHY) layer performance of the receiver device and media access control (MAC) layer performance of the transmitter device during the MIMO mode of operation; and

switching, based at least on the observations, from operating in the MIMO mode to operating in a SDMA mode to communicate with the plurality of receiver devices including the receiver device, when poor MAC layer performance below a MAC layer performance threshold is observed for the transmitter device during the MIMO mode of operation of the transmitter

device, even though good PHY layer performance above a PHY layer performance threshold is observed for the receiver device during the MIMO mode of operation of the transmitter device.

16. (Previously presented) An article as claimed in claim 15, wherein said observing includes observing a latency value of said MAC layer, and said switching is based at least in part on whether the observed latency value of said MAC layer exceeds a threshold value or not.

17. (Previously presented) An article as claimed in claim 15, wherein said observing includes observing a throughput value of said MAC layer, and said switching is based at least in part on whether the observed throughput value is below a threshold value or not.

18. (Previously presented) An article as claimed in claim 15, wherein said observing includes observing a bit error rate of said PHY layer, and said switching occurring even though observing a bit error rate of said PHY layer that is below a threshold value indicating good PHY layer performance.

19. (Previously presented) An article as claimed in claim 15, said observing includes observing a data rate, a signal-to-noise ratio, or a spectral efficiency of said PHY layer, and said switching occurring even though observing a data rate, a signal-to-noise ratio, or a spectral efficiency of said PHY layer that is above a threshold value indicating good PHY layer performance.

20. (Canceled)

21. (Previously presented) An article, comprising:

a storage medium having stored thereon instructions that, when executed by a computing platform, result in adaptive switching between a multiple input, multiple output (MIMO) mode and a spatial division, multiple access (SDMA) mode by:

operating in a SDMA mode to communicate with a receiver device of a plurality of receiver devices of a wireless network, the computing platform being a transmitter device of the wireless network, the wireless network including at least one transmitter device and the plurality of receiver devices;

observing both physical (PHY) layer performance of the receiver device and media access control (MAC) layer performance of the transmitter device during said SDMA mode of operation; and

switching, based at least on the observations, from operating in the SDMA mode to operating in a multiple input, multiple output (MIMO) mode to communicate with the receiver device, when poor PHY layer performance below a PHY layer performance threshold is observed for the receiver device during the SDMA mode of operation of the transmitter device, even though good MAC layer performance above a MAC layer performance threshold is observed for the transmitter device during the SDMA mode of operation of the transmitter device.

22. (Previously presented) An article as claimed in claim 21, wherein said observing includes observing bit error rate of the PHY layer, and said switching is based at least in part on whether the observed bit error rate of the PHY layer exceeds a threshold value or not.

23. (Previously presented) An article as claimed in claim 21, wherein said observing includes observing a data rate, a signal-to-noise ratio, or a spectral efficiency of said PHY layer, and said switching is based at least in part on whether the observed data rate, signal-to-noise ratio or spectral efficiency is below a threshold value or not.

24. (Previously presented) An article as claimed in claim 21, wherein said observing includes observing a latency value of said MAC layer, and said switching occurring even though

observing a latency value of said MAC value that is below a threshold value indicating good MAC layer performance.

25. (Previously presented) An article as claimed in claim 21, wherein said observing includes observing a throughput value of said MAC layer, and said switching occurring even though observing a throughput value of said MAC layer that exceeds a threshold value indicating good MAC layer performance.

26.-28. (Canceled)

29. (Previously presented) An apparatus, comprising:

a transceiver to receive signals from a receiver device of a wireless network, the wireless network including at least a transmitter device and a plurality of receiver devices, the apparatus being a transmitter device of the wireless network and the receiver device being one of the plurality of receiver devices of the wireless network;

at least two or more omnidirectional antennas to couple to said transceiver; and

a baseband processor to couple to said transceiver, wherein said baseband processor and said transceiver to observe both physical (PHY) layer performance of the receiver device and media access control (MAC) layer performance of the apparatus, to switch from a multiple input, multiple output (MIMO) mode to a spatial division, multiple access (SDMA) mode under a first condition, and to switch from a SDMA mode to a MIMO mode under a second condition, the first condition includes observing poor MAC layer performance for the transmitter device below a MAC layer performance threshold when the transmitter device is operating in MIMO mode and even though good PHY layer performance above a PHY layer performance threshold is observed for the receiver device during the MIMO mode of operation of the transmitter, and the second condition includes observing poor PHY layer performance for the receiver device below a PHY layer performance threshold when the transmitter device is operating in SDMA mode and even though good MAC layer performance above a MAC layer performance threshold is observed for the transmitter device during the SDMA mode of operation of the transmitter.

30. (Previously presented) An apparatus as claimed in claim 29, wherein the first condition includes observing a latency value of said MAC layer, and said switching from the MIMO mode to the SDMA mode is based at least in part on whether the observed latency value of said MAC layer exceeds a threshold value or not.

31. (Previously presented) An apparatus as claimed in claim 29, wherein the second condition includes observing a data rate, a signal-to-noise ratio or a spectral efficiency of said PHY layer, and said switching from the SDMA mode to the MIMO mode is based at least in part on whether the observed data rate, signal-to-noise ratio or spectral efficiency is below a threshold value or not.